



07-19-02

2814

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TC 2800 MAIL ROOM

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Alexandre M. Zagoskin Confirmation No.: 1708

Application No.: 09/452,749 Group Art Unit: 2814

Filed: December 1, 1999 Examiner: Douglas A. Wille

For: PERMANENT READOUT  
SUPERCONDUCTING QUBIT Attorney Docket No.: 11090-003-999

## FEE TRANSMITTAL SHEET

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

The fee required to be filed with the accompanying amendment of even date herewith concerning the above-identified application has been estimated to be \$0.

The claim amendment fee has been estimated as shown below:

(Col. 1)	(Col. 2)	(Col. 3)	SMALL ENTITY			OTHER THAN A SMALL ENTITY		
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NO PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDIT. FEE	OR	RATE	ADDIT. FEE	
TOTAL	54	MINUS	54	=	0	> 9	\$ 0.00	> 18
INDEP.	6	MINUS	6	=	0	> 42	\$ 0.00	> 84
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEP. CLAIM					140	\$	280	\$
					TOTAL	\$ 0.00	OR	TOTAL \$

Please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150. A copy of this sheet is enclosed.

Respectfully submitted,

Date July 16, 2002

31,066

Gary S. Williams

(Reg. No.)

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Enclosure



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: ) Art Unit: 2814  
Zagoskin )  
Serial No. 09/452,749 ) Examiner: Douglas A. Wille  
Filed: December 1, 1999 ) Attorney Docket: 11090-003-999  
For: Permanent Readout Superconducting Qubit ) July 16, 2002  
)

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AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

The enclosed Amendment is in response to the Office Action dated May 10, 2002 for the above-identified patent application.

IN THE CLAIMS:

Marked up versions of all revised claims, showing insertions and deletions, are included in Appendix A. A clean version of the pending claims is included in Appendix B.

Rewrite claims 52-55 as follows:

52. (Amended) The structure of claim 1, wherein a qubit is formed by the first bank, the mesoscopic island and the clean Josephson junction, and wherein each quantum state on the qubit is characterized by a clockwise or a counterclockwise supercurrent that circulates in a plane in the vicinity of the clean Josephson junction.

53. (Amended) The quantum register of claim 8, wherein a plurality of qubits is formed by the plurality of mesoscopic islands, the bank, and the plurality of clean Josephson junctions, and wherein each quantum state on each respective qubit in said